

ABSTRACT

A sensor front end is disclosed that is able to discriminate objects based on their range from the sensor and to derive bearing information therefrom. The sensor system may include a signal source for generating source signal; an antenna system for transmitting the source signal to and receiving a reflected signal from the object; wherein the antenna system is configured for introducing a phase shift into either the source signal or the reflected signal to create a plurality of signal patterns; and an information processor programmed to receive the reflected signal and to determine bearing information for the object based on position and phase information in the plurality of signal patterns.